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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,413	12/31/2003	Stanislav Sosnovsky	EMC03-25(03158)	4654

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EXAMINER
PRICE, NATHAN E

ART UNIT	PAPER NUMBER
2194	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/750,413	SOSNOVSKY ET AL.
		Examiner	Art Unit	
		NATHAN PRICE	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>19 February 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-11,13,16-31,34-38 and 40</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-11,13,16-31,34-38 and 40</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 11, 13, 16 – 31, 34 – 38 and 40 are pending.

2.   This Office Action is in response to communications received 19 February 2008.
Previous objections and rejections not included in this Office Action have been
withdrawn.

Continued Examination Under 37 CFR 1.114

3.   A request for continued examination under 37 CFR 1.114, including the fee set
forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this
application is eligible for continued examination under 37 CFR 1.114, and the fee set
forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action
has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19
February 2008 has been entered.

Response to Arguments

4.   Applicant's arguments with respect to claims 1 – 11, 13, 16 – 31, 34 – 38 and 40
have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1 – 11, 13, 16 – 21, 23 – 31, 34 – 38 and 40 are rejected under 35 U.S.C.

103(a) as being unpatentable over Silberschatz (see PTO-892 mailed 20 April 2007) in

view of Da Palma et al. (2003/0135781 A1; "Da Palma").

6.   As to claim 1, Silberschatz teaches a method for processing timer events, the

method comprising:

receiving a timer subscription containing a time value and an identity of a module

to notify upon expiration of the time value, each module operable to include a plurality of

threads (section 12.3.3; 4.1.4);

establishing a timer to track expiration of the time value (section 12.3.3);

detecting expiration of the timer (section 12.3.3);

in response to detecting expiration of the timer, determining if the module is

disabled, and if the module is disabled, enabling the module (sections 12.3.3; 4.1.2;

4.2.1), enabling modules corresponds to activation of a corresponding component by an

activation mechanism (sections 6.1.4; 4.1.3), disabling corresponds to deactivation of

the corresponding component by the activation mechanism, the activation and

deactivation operations operable to reduce memory consumption by inactive

components and provide selective invocation to maintain availability of the component

(sections 6.1.4; 4.1.3; 9.2 ¶ 1 – 4); and

notifying a subscriber in the module of expiration of the timer (section 12.3.3),

enabling and disabling being performed at a level of granularity of the modules, each of

the modules corresponding to a component and operable be enabled and disabled by

activation and deactivation of the corresponding component (sections 4.1.4; 4.2.3; 5.1;

9.2).

receiving a second timer subscription to the same timer as the timer subscription

(section 12.3.3).

7.   Silberschatz fails to specifically teach specifying the timer name and multiple

subscriptions to a timer by specifying the timer name as claimed. However, Da Palma

teaches the subscriptions include a timer identity (¶ 29). Silberschatz further teaches

multiple modules using the same timer (section 12.3.3). Therefore, the combination

teaches or renders obvious the timer identified by a timer name provide by both

subscriptions as claimed. It would have been obvious to one of ordinary skill in the art

at the time Applicant's invention was made to combine these teachings because both

references teach using timers in computer programming.

8.   As to claim 2, Silberschatz teaches the module includes a timer handler in the

subscriber, the timer subscription further indicative of the timer handler, and notifying

the subscriber of the expiration of the timer further comprises invoking the indicated

timer handler for execution (sections 12.2.2; 12.3.3; 4.1.2; 4.2.1).

9.   As to claim 3, Silberschatz teaches establishing the timer further comprises:

adding the identity of the module to a global timer map, the global timer map operable to

indicate a plurality of modules; and adding a reference to the subscriber including the

timer handler into a local timer map associated with the module (sections 12.3.3; 4.1.3).

10.   As to claim 4, Silberschatz teaches invoking further comprises: indexing, via the

local timer map, a dispatch command operable to dispatch the timer handler (sections

6.1.4; 4.1.3).

11.   As to claim 5, Silberschatz teaches the local timer map includes an entry

indicative of the subscriber including the timer handler within a module and the global

timer map includes an entry indicative of the module (sections 12.3.3; 4.1.3).

12.   As to claim 6, Silberschatz teaches the reference is a dynamic offset from a base

to the location in a particular instantiation of the module, the base operable to change

upon reenablement of the module (sections 4.1.3; 9.1.1; 9.1.2; 9.2 ¶ 3).

13.   As to claim 7, Silberschatz teaches the expiration of the timer and resulting timer initiated invocation of the timer handler is independent of the enablement of the subscriber including the timer handler (sections 6.1.3; 4.1.3; 12.3.3).

14.   As to claim 8, Silberschatz teaches determining if the module is disabled further comprises: employing the global timer map to find the entry corresponding to the timer expiration to determine the identity of the module corresponding to the timer event; and determining, from the identity of the module, if the module is disabled (sections 12.3.3; 4.1.3; 4.2.1).

15.   As to claim 9, Silberschatz teaches the timer subscription is operable to indicate periodic and aperiodic expiration times (section 12.3.3).

16.   As to claim 10, Silberschatz teaches the subscription is received from a subscriber within the module, the subscriber including the timer handler (section 4.1.3).

17.   As to claim 11, Silberschatz teaches receiving the subscription further comprises receiving a subscription from multiple subscribers in the module, each subscriber operative to include a timer handler, further comprising, in response to detecting expiration of the timer, enabling disabled modules upon expiration of a timer subscribed to by any of the multiple subscribers (sections 12.3.3; 4.1.4; 5.1; 5.2).

18.   As to claim 13, Silberschatz teaches resetting the expiration time value with an expiration time value from a second subscription for the same timer (section 12.3.3).

19.   As to claim 16, Silberschatz teaches activation and deactivation further comprises identifying, in a module server in communication with each of the modules, when to activate and deactivate modules based on information in the global timer map in a component server (section 12.3.3).

20.   As to claim 17, Silberschatz teaches disabling is performed by a thread manager operable to gracefully terminate each of the threads prior to deactivation, deactivation occurring by informing each of the threads of the termination and computing when each thread has attained a termination point (section 9.2).

21.   As to claim 18, Silberschatz teaches associating the timer with a generation counter, the generation counter incrementally labeling each invocation from a particular subscriber; comparing, upon completion of a timer handler, the generation counter; canceling, if the generation counter indicates that the timer handler corresponds to the generation counter, the timer; and maintaining, if the timer is periodic, the pending timer corresponding to the subscriber (section 12.3.3).

22.   As to claim 19, Silberschatz teaches associating the timer identity with a timer handler occurs in a native language of the timer handler and corresponding subscriber,

and avoids a corresponding definition in an external interface language, the external

interface language for generating timer specific code (sections 12.3.3; 3.3 ¶ 3).

23.   As to claim 20, Silberschatz teaches the external interface language is an

Interface Definition Language (section 15.4; page 519).

24.   As to claim 21, see the rejection of claims 1, 2 and 11.

25.   As to claims 24, 37 and 38, see the rejection of claim 1.

26.   As to claims 23 and 25, see the rejection of claim 2.

27.   As to claims 26 – 31 and 34 – 36, see the rejection of claims 4, 3, 5 – 7, 10 and

16 – 18, respectively.

28.   As to claim 40, see the rejection of claim 1.

29.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Silberschatz in view of Da Palma as applied to claim 21 above, and further in view of

Mann (US Pat. 5,644,772).

30.   As to claim 22, Silberschatz fails to specifically teach a queue as claimed.

However, Mann teaches, following selectively enabling: enqueuing an indication of the

timer expiration in a queue, the queue corresponding to a process including the module

containing the subscriber; and assigning, to a particular thread corresponding to the

queue, performance of the timer handler corresponding to the expired timer (col. 6 lines

1 – 15; col. 9 line 66 – col. 10 line 8; col. 12 lines 57 – 67). It would have been obvious

to one of ordinary skill in the art at the time Applicant's invention was made to combine

these teachings because both address timers and interrupts.

Conclusion

31.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to NATHAN PRICE whose telephone number is (571)272-

4196. The examiner can normally be reached on 6:00am - 2:30pm, Monday - Friday.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

NP